

FOREST STEWARDSHIP MANAGEMENT PLAN

Prepared For: Attala County Schools BOE

Prepared By: James Wade McCulloch Ms. Forestry Commission

Time Period Covered by This Plan: 2012 - 2021

Date Plan Prepared: 2012-02-21

Plan Type: Stewardship / Stewardship

This plan was developed in accordance with the rules of the Stewardship program.

Property Name: Zama Section 16-13-9

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LANDOWNER INFORMATION

Name: Attala County Schools BOE

Mailing Address: 100 Courthouse Bldg.

Suite 3

City, State, Zip: Kosciusko, MS 39090 Country: United States of America

Contact Numbers: Home Number:

Office Number: 662-289-2801

Fax Number:

E-mail Address:

Social Security Number (optional):

FORESTER INFORMATION

Name: James Wade McCulloch, Attala Co. Service Forester

Forester Number: 02329

Organization: Ms. Forestry Commission

Street Address: P.O. Box 576

City, State, Zip: Kosicusko, MS 39090

Contact Numbers: Office Number: 662-289-6803

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PROPERTY LOCATION

County: Attala Total Acres: 645 Latitude: -89.38 Longitude: 32.98

Section: 16 Township: 13N Range: 9E

DISCLAIMER

This information was derived from a small sampling of the forest resources. It reflects a statistical estimation that is only intended to be accurate enough for the purpose of making decisions for the short-term management of these resources. These estimations are temporally static Events and circumstances may occur within the survey area that will physically alter the forest resources and therefore will not be reflected in this plan.

INTRODUCTION

This Forest Stewardship Management Plan will serve as a guide for accomplishing the goals and objectives for your property. In addition to addressing your specific goals and objectives, this plan includes recommendations for maintaining soil and water quality and protecting your forest from insects, disease, and wildfire. Recommendations are based on observation and assessment of the site.

OBJECTIVES

Fire Protection

The goal is to protect the resource from wildfires, by establishing and maintaining firebreaks around the property; annually inspect possible signs of insect infestations and disease; and prohibit grazing until terminal bud is beyond reach of livestock.

Timber Production

The goal is to produce high quality sawtimber. This will be accomplished through reforestation and timber stand improvement practices such as herbicide applications, prescribed burning, thinning at specified intervals, and other silvicultural practices. Forestry Best Management Practices will be implemented to prevent erosion and protect water quality.

Wildlife Management - General

The goal is to provide a diversity of habitats suitable for a variety of game and non-game wildlife species. Habitat management will focus on developing a variety of food, cover, water, and space. This will be accomplished by establishing and maintaining access roads and firelanes, providing openings within the forest, and the management of trees located within the Streamside Management Zone.

PROPERTY DESCRIPTION

General Property Information

There are approximately 149 non-forested acres in this section which includes leases, Lobutcha Creek, and roads. The leases prohibit proper forestry activity. However, most of the leases areas are residences in the old town of Zama. Access to and on the section is by way of State Highway 19. Soils on this section are best suited for Loblolly Pine production except in the Lobutcha Creek swamp which splits the section.

Archeological or Cultural Resources:

No Archeological or Cultural resources were identified during a reconnaissance of the property. However, if Archeological or Cultural resources are discovered anytime on the property special managements measures will be applied immediately in order preserve these sensitive areas.

Water Resources

Lobutcha Creek was identified as a perennial water resource during a reconnaissance of the property. However, this perennial creek and if any other intermittent streams and drains are identified will be managed in accordance with Mississippi's Best Management Practices.

Timber Production

The goal is to maximize the production of high quality timber. This will be accomplished through the application of timely thinning and other silvicultural practices designed to enhance timber quality and growth. Forestry Best Management Practices will be implemented to prevent erosion and protect water quality.

Threatened and Endangered Species

No threatened and endangered species were identified during the reconnaissance and evaluation of your property.

Interaction with Surrounding Property

Prescribed practices should be carried out in a manner that will minimize adverse impacts on surrounding properties. Consideration should be given to potential air, water, visual, and other impacts. In addition, practices carried out should have positive effects on the surrounding community such as improved wildlife habitat and soil stabilization.

Soils General

Soils were evaluated on the property to determine the suitability of the site for the proposed activities. Forest practices were planned so as to minimize erosion or other adverse effects on the soil. The following soils are identified for this property:

SOIL TYPES

8

The Kinston component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, May, June, November, December. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. Loblolly Site Index = 100.

48A

The Stough component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on terraces. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. Loblolly Site Index = 90. Slash Site Index = 86.

44C2

The Providence component makes up 90 percent of the map unit. Slopes are 5 to 8 percent. This component is on uplands. The parent material consists of silty loess over sandy marine deposits. Depth to a root restrictive layer, fragipan, is 18 to 38 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches during January, February, March. Organic matter content in the

surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. Loblolly Site Index = 87. Longleaf Site Index = 73.

32F

The Smithdale component makes up 90 percent of the map unit. Slopes are 15 to 40 percent. This component is on hillslopes. The parent material consists of loamy fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria. Loblolly Site Index = 80.

11

The Kinston component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, May, June, November, December. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. Loblolly Site Index = 100.

GENERAL PROPERTY RECOMMENDATIONS

Forest Protection

A healthy vigorously growing stand is the best defense to an attack from a variety of forest insects, plants and pathogens.

Insects and Diseases

Trees are subject to attack from insects and diseases. Different insects and diseases affect trees according to the age, species, and condition of the trees. Planted stands of pines and pure stands of hardwoods are particularly susceptible to attack. Since there are many different insects and diseases, no attempt will be made here to explain all of them. The property should be inspected at least annually for possible signs of insect and disease activity. Some things to look for are:

- · Unseasonable leaf fall
- Discoloration of leaves or needles
- Pitch pockets on pine trees
- · Heavy defoliation of hardwood leaves
- · Groups of three or more dying trees within a stand

This list does not cover all instances of insect or disease attacks. If anything unusual is noticed, report it to a forester. In most cases, insect and disease problems can be controlled if discovered early.

Fire Protection

Your forest should be protected from wildfire at all times. The best way to protect your investment is by establishing and maintaining firebreaks around the property. Guidelines for establishment and maintenance of firebreaks may be found in Mississippi Forestry Commission publication #107, *Mississippi's Best Management Practices*.

Grazing

Tree seedlings should be protected from grazing until such time as the terminal bud of the sapling is beyond reach of livestock. Domestic livestock should be denied access to the tree planting area.

Boundary Lines

It is the responsibility of the landowner to ensure that all property lines and boundaries designating areas to receive forestry work are clearly identified and visible to all contractors.

Note: Some forest practices may cause temporary adverse environmental or aesthetic impacts. These practices will only cause short-term adverse impacts where they are installed. Special efforts will be made to minimize adverse effects when carrying out any of the practices. Examples include: site preparation, planting, prescribed fires, firebreak installation and maintenance, road installation and maintenance, pesticide applications and timber harvesting.

Water Quality Protection

The objective of the landowner is to protect, preserve and enhance all water sources on or transecting the property. This can best be achieved by implementation of Best Management Practices in all aspects of the management of the property.

Aesthetics

The goal is to assure that the property is managed in such a way that is aesthetically pleasing to the landowner as well as the community. Activities could include, maintaining buffer strips along the road and adjacent to the home site, planting wildflowers along the road, and trees with attractive fall and spring color along the drive and near the home site.

Ecological Restoration

Ecological restoration is the process of assisting the recovery of an ecosystem that has be degraded, damaged, or destroyed. A reconnaissance of the property has been conducted and no ecological restoration activities are recommended at this time.

Wildlife Mgt. Target Species

The objective of this practice is to provide habitat best suited for the featured or target species. Habitat management will focus on providing food, cover, water, and space to facilitate the target species.

Environmental Education

Environmental educational goals are to provide educational opportunities for children and adults through the development of items such as nature trails with tree identification markers, wildlife viewing areas, picnic areas, parking, public restroom facilities.

Wildlife Management General

The goal is to provide a diversity of habitats suited for a variety of game and non-game wildlife species. Habitat management will focus on providing a variety of food, cover, water, and space. This will be accomplished, in part, by establishing and maintaining access roads and firelanes, providing openings within the forest, and leaving mast producing and den trees.

Timber Management

Timber management goals for this property are to manage timber resources in such a manner as to maximize timber production throughout the life of the stand.

Recreation

According to landowner objectives the recreational use of the property could prove to be an avenue for personal enjoyment or for generating income. An evaluation of your property should be conducted and a plan developed to accomplish your specific goals for recreational activities on your property.

STRATA

Strata 1
Strata Description

Stands: 4,10,12,13,18

Acres: 105

This area consists of Loblolly Pine hand planted in 2002. There are 680 trees per acre in this stand. A few hardwoods are scattered throughout the stand competing for soil nutrients.

Strata Recommendations

This area should be thinned when the average pine DBH is \sim 6 inches and average basal area exceeds 110 square feet per acre. Either thin using a fourth or fifth row thinning or a cutter select corridor thin that represents a fourth or fifth row thinning scheme. Thin back to an average basal area of 70 square feet per acre, plus or minus 5 square feet per acre.

Activity Recommendations

Harvest

A 1st thinning should take place around 2019.

Strata 2
Strata Description
Stand: 7

Acres: 39

This area consists of Loblolly Pine hand planted in 1986. There are 180 trees per acre with 70 square feet of basal area per acre in this stand. A few hardwoods are scattered throughout the stand competing for soil nutrients.

Strata Recommendations

This stand is to be managed to a rotation age of 35 years. The goal is to produce high quality sawtimber. This will be accomplished through timber stand improvement practices such as herbicides applications, prescribed burning, thinning at specified intervals, and other silvicultural practices.

Activity Recommendations

Harvest

A 2nd thinning should be done around 2016.

Strata 3
Strata Description
Stands: 5,11

Acres: 24

This area consists of Loblolly Pine hand planted in 2010. There are 650 trees per acre in this stand. A few hardwoods are scattered throughout the stand competing for soil nutrients.

Strata Recommendations

This area should be thinned when the average pine DBH is ~6 inches and average basal area exceeds 110 square feet per acre. Either thin using a fourth or fifth row thinning or a cutter select corridor thin that represents a fourth or fifth row thinning scheme. Thin back to an average basal area of 70 square feet per acre, plus or minus 5 square feet per acre. It is estimated that this thinning should take place during the next plan period (beyond 2021).

Strata 4

Strata Description Stands: 3,14,15

Acres: 59

This area consists of natural mixed hardwood and pine sawtimber stands established in ~1958. There are 88 pine trees per acre with 75 square feet of basal per acre and 128 hardwood trees per acre with 80 square feet of basal area per acre in this stand.

Stand Recommendations

Stand 3,14 and 15 is a mixed stand of pine and hardwood that is reaching a mature level. Biologically, this timber should be harvested within the next few years. Economically, the stand should not be harvested until stumpage prices increase. After harvesting, site preparations should be completed and then the area should be planted back with loblolly pine seedlings.

Activity Recommendations

Harvest

A final harvest should be carried out on stand 3,14 and 15 in 2018. Follow when practical with reforestation to convert to Loblolly Pine.

Strata 5

Strata Description Stands: 1,2,6,16

Acres: 259

This area contains natural bottomland hardwoods in Lobutcha creek swamp. There are 164 trees per acre with 144 square feet of basal area per acre in this stand.

Stand Recommendations

Stand 1 should be harvested within the next few years. After harvesting, site preparations should be completed and then the area should be planted back with loblolly pine seedlings.

Activity Recommendations

Harvest

It is recommended that stand 1 be harvested in 2014.

Strata 6

Strata Description

Stand: 8

Acres: 4

This area consists of an old bettle spot that was never artificially regenerated and has grown up in hardwood saplings. There are 700 trees per acre in this stand.

Strata Recommendations

This area will be harvested when strata 4 is harvested.

Activity Recommendations

Harvest

A final harvest should be carried out on stand 8, in 2018. Follow when practical with reforestation to convert to Loblolly Pine.

Strata 7

Stand Description

Stand: 9

Acres: 5

This area consist of sub-merchantable Pine planted or seeded in 2005. There are 800 trees per acre in this stand. A few hardwoods are scattered throughout the stand competing for the soil nutrients.

Strata Recommendations

This area should be thinned when the average pine DBH is ~6 inches and average basal area exceeds 110 square feet per acre. Either thin using a fourth or fifth row thinning or a cutter select corridor thin that represents a fourth or fifth row thinning scheme. Thin back to an average basal area of 70 square feet per acre, plus or minus 5 square feet per acre. It is estimated that this thinning should take place during the next plan period (beyond 2021).

OTHER PLAN ACTIVITIES

Boundary Lines

Line Description

These are the outside boundary lines of Sec. 16-T13N-R9E.

Line Recommendations

The boundary lines need permanent lines pushed around them and the boundary trees need to be marked in paint every six years.

Activity Recommendations

Property Activities

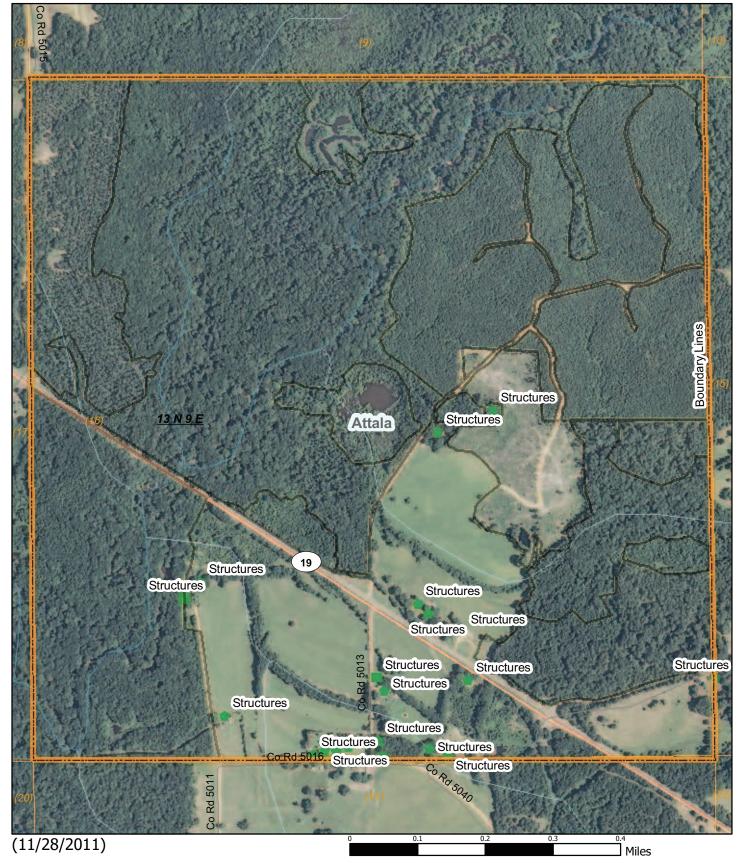
Routine inspections and general maintenance of the roads, Firelanes, and boundary lines will ensure overall appearance and aesthetics of the property. The boundary lines will need to be painted in 2017.



Attala Co. BOE - Zama Section

S16 T13N R9E 2012 to 2021 644.87 Acres



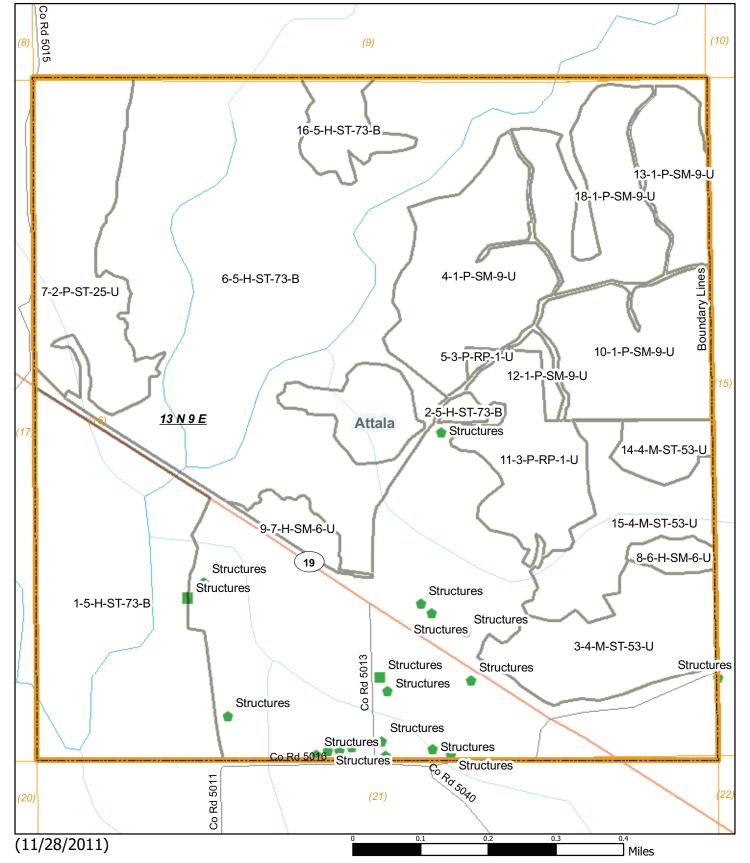




Attala Co. BOE - Zama Section

S16 T13N R9E 2012 to 2021 644.87 Acres





Plan::0045 00015 28007 05022008104834 Zama Section



Boundary Corners School Land Classification **Property** Boundary Lines (cont) Property Property Forest Health Forest Land Section **Invasive Species** Farm/Residential Land Category 1: Stands **Quarter Section** Management Compartment Residential Land Clear Cut Military Area Agricultural Land Areas Non-Stocked Industrial Land Natural Area Structures Reproduction Recreational Land Property Sub-Merchantable Barn Recreation Catfish Farming Land Pulpwood Tractor Shed Rights of Way Other Land Chip-n-Saw Out Building SMZ Commercial Land Sawtimber Single-Family Special Use Management Compartment Poles Multi-Family Stand Camp House Surface Mining Management Category 2: Stands Club House Threatened/Endangered Species Regeneration Clear Cut Office Building Site Preparation Visual Buffer Non-Stocked Manufacturing Post Plant Fire Control Reproduction Warehouse Site Improvement I Chicken House Sub-Merchantable Temporary Line Vegetation Control Permanent Fire Break Pulpwood Horse Stall Stand Improvement I Chip-n-Saw Milking Parlor **Invasive Species Control** I Wildlife (Lines) Sawtimber Hog Pen Harvest Poles Blind Green Strip Fire Protection Stand Technical Category 3: Non-Forest Stands Hospital Fire H Wildlife Management Non-Forest Nursing Home Mitigation Burn **Property Activities** Silviculture Burn Dr. Clinic Roads Category 4: Not in Plan Stands H State Facility Site-Prep Burn SMZ ✓ Not in Plan Wildfire Forest Health Office Work Center Recreation Category 5: Features Only Plan Stand School Land Lease Materials Depot Site Restoration Features Only Plan Prison Hunting Minerals Transportation (Lines) School Restricted Sites Church Recreation City Streets X Archeology County Roads Mosque + Cemetery Restricted Area 3 Digit Highway Synagogue Red-Cockaded Woodpecker SMZ Interstate Highway Other ▲ Gopher Tortoise Archeology, **US Highway** Cruise Plots Picture Bogg Plant Cemetery State Highway Pre-Cruise Visual Buffer Natchez Trace Parkway Forest Health (Points) Post-Cruise Special Use Runways/Airports ***** Cogan Grass Natural Area Active RR Other Kudzu Education Abandoned RR Japanese Climbing Fern Towers Recreation Hydrology (Lines) Chinese Tallow Logging Deck Military Area Privet Locked Large Utility Mississippi River Southern Pine Beetle UnLocked Red-Cockaded Woodpecker Major River Sirex Wasp Water Gopher Tortoise **Primary Stream** Picture Bogg Plant Intermittent Stream IPPS Oil Natural Gas Coal Canal Hydrology (Points) Gravel Ditch Property Roads/Trails Concrete Dam Dirt Earthen Dam Concrete Dam Beaver Dam Drive Ways Water Earthen Dam Access Road Oil Utilities (Lines) Permanent Natural Gas Logging Road Large Electrical Temporary Skid Trail Forest Health (Polygons) Wooden Farm Road Local Utility

Cogan Grass

Japanese Climbing Fern

Southern Pine Beetle

Chinese Tallow

Kudzu

Sirex Wasp

Privet

IPPS

Large Pipeline Small Pipeline

Gas Line

Utility Line

Water Line

Hiking Trail

Boundary Lines

Archeology

Cemetery

Education

Drilling Sites

Horseback Riding Trail

Other

Pond

Wildlife (Points)

Feeder

Food Plot

Water Hole

Culvert

Stand Activity Schedule for Attala County Schools BOE 16 13N 9E

Strata	Stand	Activity	Acre	Est. Cost	Est. Revenue			
2014								
5	1	Harvest, Mechanical, Final, Machine, Loblolly	75	\$2,625.00	\$182,175.00			
		Yearly Totals	75	\$2,625.00	\$182,175.00			
2015								
5	1	Site Preparation, Other, Burn, Hand, Cut-Over	75	\$1,875.00	\$0.00			
5	1	Site Preparation, Chemical, Broadcast, Aerial, Combination	75	\$6,709.50	\$0.00			
5	1	Regeneration, Artificial, Plant, Hand, Loblolly	75	\$6,336.75	\$0.00			
		Yearly Totals	224	\$14.921.25	\$0.00			
2016								
2	7	Harvest, Mechanical, 2nd Thin, Machine, Loblolly	39	\$1,365.00	\$15,405.00			
		Yearly Totals	39	\$1,365.00	\$15,405.00			
2018								
4	3	Harvest, Mechanical, Final, Machine, Loblolly	28	\$980.00	\$76,916.00			
4	14	Harvest, Mechanical, Final, Machine, Loblolly	7	\$245.00	\$19,229.00			
4	15	Harvest, Mechanical, Final, Machine, Loblolly	23	\$805.00	\$63,181.00			
6	8	Harvest, Mechanical, Final, Machine, Loblolly	4	\$140.00	\$212.00			
		Yearly Totals	62	\$2.170.00	\$159.538.00			
2019								
1	4	Harvest, Mechanical, 1st Thin, Machine, Loblolly	35	\$1,225.00	\$8,785.00			
1	10	Harvest, Mechanical, 1st Thin, Machine, Loblolly	30	\$1,050.00	\$7,530.00			
1	12	Harvest, Mechanical, 1st Thin, Machine, Loblolly	2	\$70.00	\$502.00			
1	13	Harvest, Mechanical, 1st Thin, Machine, Loblolly	14	\$490.00	\$3,514.00			

Strata	Stand	Activity	Acre	Est. Cost	Est. Revenue
1	18	Harvest, Mechanical, 1st Thin, Machine, Loblolly	25	\$875.00	\$6,275.00
4	3	Site Preparation, Chemical, Broadcast, Aerial, Combination	28	\$2,550.60	\$0.00
4	3	Site Preparation, Other, Burn, Hand, Cut-Over	28	\$708.50	\$0.00
4	3	Regeneration, Artificial, Plant, Hand, Loblolly	28	\$2,408.90	\$0.00
4	14	Site Preparation, Other, Burn, Hand, Cut-Over	7	\$177.75	\$0.00
4	14	Regeneration, Artificial, Plant, Hand, Loblolly	7	\$604.35	\$0.00
4	14	Site Preparation, Chemical, Broadcast, Aerial, Combination	7	\$639.90	\$0.00
4	15	Site Preparation, Chemical, Broadcast, Aerial, Combination	23	\$2,093.40	\$0.00
4	15	Site Preparation, Other, Burn, Hand, Cut-Over	23	\$581.50	\$0.00
4	15	Regeneration, Artificial, Plant, Hand, Loblolly	23	\$1,977.10	\$0.00
	'	Yearly Totals	282	\$15.452.00	\$26,606.00
		Grand Totals	682	\$36,533.25	\$383.724.00